REMARKS

Amendments

Claim 1 has been amended to emphasize that the inorganic particles may also constitute part of the precursor and can thus also (or only) be treated with the metal colloid. See page 2, lines 29-30 of the specification. Additionally, claim 1 now recites that the metal colloid is *stabilized*. This teaching is e.g. disclosed on page 3, lines 1 to 3.

Claim Rejections

Claims 1-4 and 6-12 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Krall '562 in view of EP '501.

The present invention relates to a process for preparing an antimicrobial plastic body. This antimicrobial effect is achieved by incorporation of inorganic particles in a precursor, wherein at least one component of the precursor is treated with a metal colloid solution that is is stabilized.

In order to achieve the highest antimicrobial efficacy possible with the same proportional mass distribution of metal colloid (such as silver) it is important to achieve a particle surface area that is as high as possible. A high surface distribution of colloid metal particles ensures that the active metal can easily dissolve from the polymer, thereby hindering the progeny of microorganisms.

In order to achieve such a high surface area, it is important that the size of the silver particles is as small as possible. Furthermore, it is important to prevent the aggregation of small silver particles to bigger aggregates, which would reduce the effective surface area.

Claim 1 as amended describes an efficient concept for generating and stabilizing small nano metal particles. The process comprises molding a precursor, wherein inorganic particles are added to the precursor and, prior to molding, at least one

component of the precursor is treated with a metal colloid solution wherein the metal colloid is stabilized. Thus, in carrying out this method, the metal colloid solution is first generated by any appropriate technique, such as by reduction of silver ions. See, e.g., the examples. These generated metal nanoparticles are immediately stabilized with an "envelope" composed of the stabilizing agent. This prevents the formation of aggregates, which would reduce the antimicrobial efficacy.

While not wishing to be bound by theory, it is believed that the stabilizing process as claimed is well illustrated in the attached Exhibit 1. As shown, the primarily created nano silver particles depict electrical surface charges and are also saturated coordinately with hydroxide ions (OH^-) and/or ammonia (NH_3). Stabilizers, such as e.g. organic polymers, possess antipodal charges and/or are able to form hydrogen bonds with the coordinated OH or NH_3 groups of the silver particle. Thus intermolecular interactions are generated that create a stabilizing envelope. However, this envelope is permeable for water and Ag^+ ions, which are necessary for antimicrobial activity.

Krall '562 discloses a process for producing bactericidal/fungicidal plastic bodies. As noted in the Office Action, Krall '652 does not teach suing coating/treated inorganic particles.

EP '501 is cited in the outstanding Office Action as providing a teaching for the use of inorganic particles using a metal/silver dispersion/colloid.

The claims as presently amended, however, additionally require that the precursor is treated with a metal colloid solution wherein the metal colloid is stabilized. Krall fails to teach or suggest that the metal/silver dispersion/colloid as used therein is stabilized.

It is respectfully submitted that the combination of Krall '562 in view of EP '501 falls short of the present claims, because the cited references do not disclose, teach or suggest the stabilization concept as required in the claims as amended. Claim 1 and all claims dependant therefrom are therefore unobvious.

Conclusion

In view of the above amendment and remarks, it is respectfully submitted that the foregoing is fully responsive to the outstanding Office Action. Favorable reconsideration and passage of the present application to issue is therefore earnestly solicited. In the

event that a phone conference between the Examiner and the Applicant's undersigned attorney would help resolve any issues in the application, the Examiner is invited to contact said attorney at (651) 275-9811.

Respectfully Submitted,

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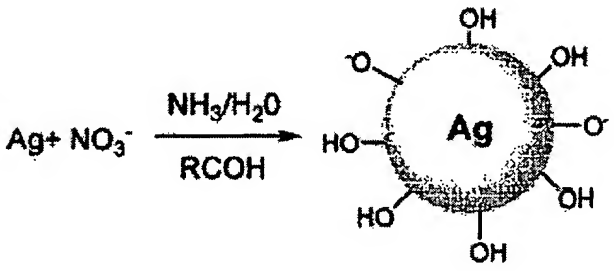
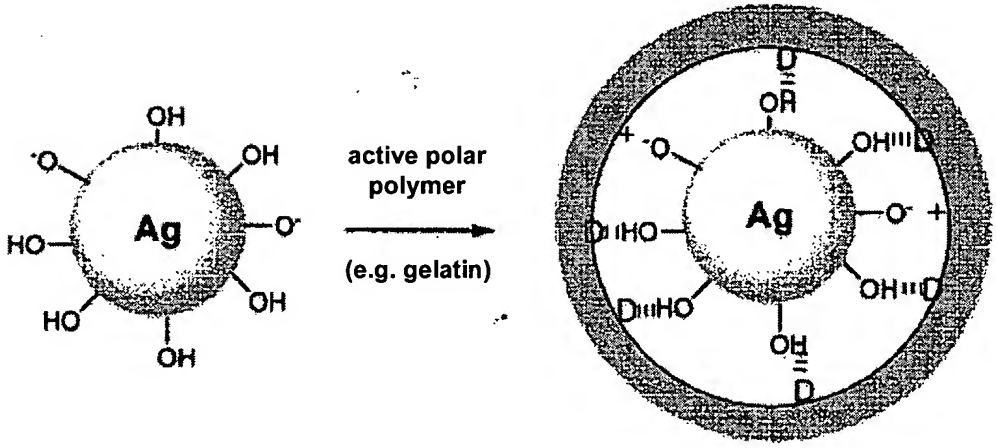
Exhibit 1

Proposed nano silver stabilization schema:



surface activated nanoparticle



encased silver nanoparticle (permeable for H_2O and Ag^+ ions)